



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D5854-3

Job Sheet 207438



POSITIVE
RECALL

Part No: D5854-3

Job Qty: 12 pcs

Part Name: Bushing



Part Weight: 0 lbs

Job Created: 2/26/20

Due Date: 3/6/20

Type: Stock

Status: New

Job Tracking No:

Created By: Jennifer Renwick

Description:

Priority: Medium

Note: URF 2020-525 DWG D5854 Rev A IPP Rev. A 2020.01.30 New issue DP Verify DD

Ship Via:

POSITIVE RECALL

EFFECTIVE _____ AUTH _____

RELEASED _____ DATE _____

Placed by mistake
NO 20.02.20

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Hardinge - 1	12 pcs	3/6/20	3/6/20	0.50	0.20	Conventional Lathe - 1	SL-154	DAS 33 20/03/01
							Hardinge - 1		9-89
110	QC 2	12 pcs	3/6/20	3/6/20	0.00	0.00	QC 2 - 1		
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		DAS
							QC 2 - 33		33 20/03/01
							QC 2 - 35		9-89
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 57		
							QC 2 - 62		
							QC 2 - 63		
							QC 2 - 8		
							QC 2 - 66		
							QC 2 - 64		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S259588



Part: D5854-3

Job No: 207438

Serial No/Batch: S259588

Revision: A

Inspector:

Exp Date:

Instructions:

Date: 03/01/20

Plex 2/26/20 10:01 AM Dart.lajeunesse.marie

				QC 2 - 65	
				QC 2 - 5	
				QC 2 - 71	
				QC 2 - 73	
				QC 2 - 69	
				QC 2 - 76	
120 QC 8	12 pcs	3/6/20	0.00 0.00	QC 8 - 12	
				QC 8 - 14	ML 20/03/01
				QC 8 - 17	
				QC 8 - 20	
				QC 8 - 25	
				QC 8 - 3	
				QC 8 - 32	
				QC 8 - 33	
				QC 8 - 35	
				QC 8 - 39	
				QC 8 - 4	
				QC 8 - 44	
				QC 8 - 45	
				QC 8 - 49	
				QC 8 - 58	
				QC 8 - 8	
				QC 8 - 9	
				QC 8 - 68	
				QC 8 - 67	
				QC 8 - 1 (A)	
				QC 8 - 47	
				QC 8 - 40	
				QC 8 - 52	
				QC 8 - 23	
				QC 8 - 57	
				QC 8 - 76	
				QC 8 - 61	
130 Packaging 3-1 - Stock - B4B	12 pcs	3/6/20	0.00 0.00	Packaging 3 - 1 - B4B	ML
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 37 - B4B	
140 QC 21 - SA	12 pcs	3/6/20	0.00 0.00	QC 21 - SA - 21	DAS 21 212 MAR 02 2020
				QC 21 - SA - 70	
Part Op 100 - 1-Machine as per folio FC <u>N/A</u> FOLIO REV: <u>AA</u> DWG REV: <u>A</u> 2-Debur Descriptions: 110 - QC2- Inspect parts off machine FAI/FAIB 120 - QC8- Inspect parts - second check 130 - Identify as per dwg & Stock Location: _____ 140 - QC21- Final Inspection - Work Order Release					
Job BOM					
Part / Item	Component Name	Quantity	Operation	Container	
M304R0.313	304 SS Round bar .313 <u>0345</u>	.6360 ft (.053 ea)	100-Hardinge - 1	<u>5 252617</u>	
Job Allocations					
Operation	Component Part	Required	Inventory	Allocated	
100-Hardinge - 1	M304R0.313	1	12	0	
Part Specifications					
Specifications could not be found.					

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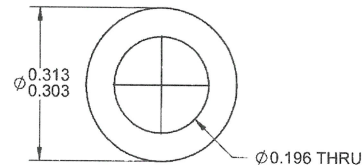
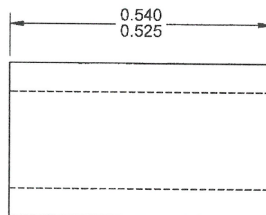
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SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 207438 MLS
 2002-26



D5854-3 BUSHING
 (DERIVED FROM AERO DESIGN P/N 70422-07)

UNDER REVIEW

URF 2020-525 20.02.20 (NO)

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL ROUND BAR
 PER ASTM A276 OR ASTM A479
 REF DART SPEC M304R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.01 lbs

RELEASED

2020 FEB 19 *q*

APPROVED

DESIGN	ZF	DART AEROSPACE LTD	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	DRAWING NO.	REV. A
MFG. APPR.	DD	D5854	SHEET 3 OF 3
APPROVED	NO	TITLE	SCALE
DE APPR.	CP <i>q</i>	BRACKET	NTS
DATE	20.01.27	<small>COPYRIGHT © 2020 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

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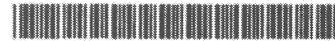
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Dart Aerospace Ltd.
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Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB045671**



Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
9		M304B0.250X4.000			304 Bar .250 X 4.00 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	1/31/20	12 ft	0 ft	12 ft	\$10.0625/ft	\$120.75
										12 ft 603		DAS 82 9-89 JAN 31 2020	
10		M304R0.375			304 Round Bar 0.375 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	1/31/20	12 ft	0 ft	12 ft	\$1.15/ft	\$13.80
										12 ft 603		DAS 82 9-89 JAN 31 2020	
11		M2024T3S.063			2024-T3 .063 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	-	1/31/20	144 sf	0 sf	144 sf	\$12.163472/sf	\$1,751.54
										144 sf 603		DAS 82 9-89 JAN 31 2020	
Grand Total:												\$4,972.57	

Order Notes

Procurement Quality Clauses

- A005 right of entry
- A012 chemical and physical test report
- A016 personnel qualification
- A017 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS)
- A026 certification of material conformance
- A041 quality management system
- A042 dart notification by supplier
- A043 retention of quality documents
- A048 counterfeit parts avoidance, detection, mitigation and disposition program.
- A049 supplier awareness.

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/23/20 3:01 PM Dart.Lavoie.Chantal

JAN 3 1 2020

DAS
82
9-89

DELIVERY - CLIENT

CO00188756

Product Description	Qty	Weight	UM	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
HEAT : SXD190562 6 ROUND ALU 6061-T6 1 1/4 * RAL-114 5121 1 X 20' POHB045671 LINE 6 HEAT : SXA181600	28.82	20.00	PI_\$CLB		1x20'						
7 ROUND ALU 6061-T6 1 1/2 * RAL-112 5119 1 X 20' POHB045671 LINE 7 HEAT : SXF180576	41.52	20.00	PI_\$CLB		1x20'						
8 ROUND ALU 6061-T6 1 5/8 * RAL-158 5138 1 X 12' POHB045671 LINE 8 HEAT : LOT 23713206	29.23	12.00	PI_\$CLB		1x12'						
9 FLAT SS304 1/4 X 4 (R) FSS-144 3522 1 X 12' R/L POHB045671 LINE 9 HEAT : 524305	40.80	12.00	PI_\$CLB		1x12' 1"						
10 ROUND SS 304 3/8 (R) RSS-38 5768 1 X 12' R/L POHB045671 LINE 10 HEAT : 51089	4.51	12.00	PI_\$CLB		1x12'						
11 ALU SHEET .064 (14G) 2024-T3 (4 X 12) DART FEALD-0644122024 12474 3 X 4' X 12' POHB045671 LINE 11 LOT : 323583B5 CAST : 894 AC33272-SA-27/01	129.74	144.00	PI2_\$CLB		3x4'x12'						
		1.00	UN_\$UN								
Note : ATTENTION: MILL TEST REQUIS Chaque item identifier avec : - Le # PO client - Le # d'item - Le heat # - Emballer les pièces dans carton											

LINE 10

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304R 0.375
 DATE: JAN 31 2020

PO / BATCH NO.: POMB045671
5252617

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 12 FT
 QUANTITY INSPECTED: 12 FT
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375
 THICKNESS RECEIVED: 0.375
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	ASTM A276
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	51089
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: _____	DAS 82	SIGNED OFF BY: _____	
DATE: <u>JAN 31 2020</u>	9-89	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

LIME 10

M304R 0.375

P0113045671

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION: ASTM A276

PART NUMBER: M304R D.DDD
DIA.

WHERE "D.DDD" = DIAMETER IN INCHES

EG. 0.75" ROUND BAR = M304R0.750

68-6
SVD

RELEASED
09/07/15

B	REFORMAT DWG, ADD SPECS (ZN D6-1). REF PAR 08-020A	CP	08.07.15
A	NEW ISSUE	AJS	08.03.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JP	DRAWING NO.	REV. B
CHECKED	JP	M304R	SHEET 1 OF 1
MFG. APPR.	MD	TITLE	SCALE
APPROVED	MD	304/316 ROUND BAR	NTS
DE APPR.	MD	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	09.07.15		

5768

RSS-38

2774219

VIRAJ PROFILES LIMITED

VIRAJ

Works: SURVEY NO.- 25/1, 25/2, 26 & 34, Village- MAAN, Taluka- PALGHAR, Dist.- PALGHAR, MAHARASHTRA -401 506, INDIA,
e-mail- vielqc@viraj.com

54566

TEST CERTIFICATE

ORDER NO	PACKING LIST NO	INSPECTION NO	DATE
P007198	64/75016438/12	100010589233	25.09.2018
		GRADE	HEAT No
		304/304L	51089

BUNDLE NO :

1100971024, 1100971025, 1100971026, 1100971027, 1100971028, 1100971029, 1100971030, 1100971031, 1100971032, 1100971033, 1100971034, 1100971035,

DESCRIPTION

STAINLESS STEEL BRIGHT BARS

COLD DRAWN POLISHED - 2H

SIZE	SHAPE	TOLERANCE	LENGTH	PIECES	WEIGHT
3/8"	ROUND	ASTM A484	12' - 14'	2802	12,688.000 LB

CHEMICAL ANALYSIS

%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Cu	%Mo	%Co	%N2
0.0180	1.620	0.310	0.0240	0.0360	18.150	8.070	0.640	0.230	0.180	0.08000

TEST RESULTS

0.2% yield strength ksi	Tensile Strength ksi	Elongation %	Reduction Of Area %	Hardness BHN	Grain Size NOS
93.0	109.0	41.0	69.0	223.0	7.0

SPECIFICATION:

MATERIAL CONFIRMS TO DIN EN 10088-3:2014, WNR 1.4301/1.4307, EN 10272 COND-A & ASTM A182/A182M-18, ASTM A276/A276M-17 COND A, ASTM A479/A479M-18 COND A, ASTM A193/A193M-17, B8 CL-1, A320/A320M-15, B8 CL-1, ASTM A484/A484M-18, A388/A388M-05, ASME SA182-14, SA479-15, SA 193-11 B8 CL-1, SA320-11 B8 CL-1, ASTM A314-2008, IGC SATISFACTORY AS PER ASTM A 262-10 PRACTICE E, AMS 5639H/AMS5647J (EXCEPT MARKING), QQ-S-763F, NACE MR0103/ISO 17945-2015, NACE-MR0175/ISO-15156-2015, SAE-AMS-S-7720A, MIL-S-862-B, AISI 304/304L & UNS#S30400/S30403. CERTIFICATION AS PER EN 10204-3.1.

REMARKS

MATERIAL IS FREE FROM MERCURY CONTAMINATION, FREE FROM WELD OR WELD REPAIRS, MICRO: FREE FROM CONTINUOUS CARBIDE NETWORK ON GRAIN BOUNDARIES. MACRO: GOOD, MINIMUM SOLUTION ANNEALING TEMPERATURE 1050C, SOAKING TIME 1/2 HRS, WATER QUENCHED. MELT SOURCE: AOD. WE CONFIRM THAT THE MATERIAL HAS BEEN TESTED AND FOUND TO BE FREE FROM RADIOACTIVE CONTAMINATION. COUNTRY OF ORIGIN: INDIA.

We hereby certify that the material described above has been tested and complies with the terms of order/contract.

WORKS INSPECTOR
K R K MURTHY

H: 51089

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Cross tube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> </div> <div> Eng. (Non-AW) <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Water Jet <input type="checkbox"/> Supplier <input type="checkbox"/> Quality <input type="checkbox"/> </div> </div>			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
Root Cause <div style="display: flex; flex-direction: column;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input type="checkbox"/></div> <div>Handling/Presservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div>		FAULT CATEGORY <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Bending <input type="checkbox"/> Crushing <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Mislabeled </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Incomplete/Unclear Instructions <input type="checkbox"/> Drill Holes <input type="checkbox"/> Fit/Function </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain Direction <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Off-set/Set-up </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Outside Tolerance <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Misread </div> </div>			
Other/Details:					